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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
RAJAN, KAI	

ART UNIT	PAPER NUMBER
3736	

NOTIFICATION DATE	DELIVERY MODE
08/18/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ADIPFDD@bipc.com

Office Action Summary	**Application No.** 10/681,137	**Applicant(s)** KONG ET AL.	
	Examiner Kai Rajan	**Art Unit** 3736	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 July 2008*.
2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 – 14, 17 – 25, 27 – 34, and 36 – 44* is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1 – 14, 17 – 25, 27 – 34, and 36 – 44* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a)☐ All b)☐ Some * c)☐ None of:
1.☐ Certified copies of the priority documents have been received.
2.☐ Certified copies of the priority documents have been received in Application No. _____.
3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Examiner acknowledges the amendment filed July 29, 2008, from which claims 1 – 14, 17 – 25, 27 – 34, and 36 – 44 are pending.

Claim Objections

Claim 12 is objected to because of the following informalities:

Claim 12 fails to further limit the claims from which it depends on since claim 1 has been amended to incorporate the same limitation. Examiner suggests claim 12 be cancelled or amended to further limit its parent claims.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1 – 13, 14, and 17 – 25, 27 – 34, and 36 – 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teller et al. U.S. Patent No. 7,261,690 in view of Khair et al. U.S. PGPub No. 2002/0109621.

Note to Applicant: See previous action for rejection to unaddressed dependent claims, as they are rejected on substantially the same basis.

1. A mobile device with an input unit, a display unit, a memory unit and a central control unit, the mobile device comprising:

a biomedical signal measurement module for detecting biomedical signals from a user's body, classifying the detected biomedical signals by respective signals and outputting the classified signals, (Column 9 line 52 – column 10 line 37); and

a health care module for analyzing an emotional state and physical condition of the user based on the classified signals input from the biomedical signal measurement module and physical information of the user, the health care module comprising (Figure 1 item 30, table 2):

an emotional state analysis unit, including a feature analysis unit for extracting feature values of the classified biomedical signals input from the biomedical signal measurement module (Column 19 lines 45 – 55, figure 8 various levels of stress and relaxation, table 2),

a subtracter unit for obtaining differences between the extracted feature values from the feature analysis unit and predetermined feature values (Column 19 lines 45 – 55, figure 8 various levels of stress and relaxation, table 2), and

a support vector machine (SVM) unit for classifying the user's emotional state by respective emotions in accordance with the differences of the feature values obtained by the subtracter unit (Column 19 lines 45 – 55, figure 8 various levels of stress and relaxation, table 2), and a physical condition analysis unit for analyzing the user's physical condition based on the classified biomedical signals input from the biomedical signal measurement module and the user's physical information (Column 18 line 57 – column 19 line 30).

Teller et al. discloses collecting physiological data from a user from skin electrodes, but fails to disclose correcting user-to-user variation based on the measured physiological signals. However, Khair et al. a reference in an analogous art discloses adjusting amplifier gain automatically to compensate for varying skin resistance and to keep measured signals within predetermined ranges (Khair et al. paragraphs 0098 – 0099). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Teller et al. with the adjustable amplifier gain system of Khair et al., since Khair et al. states that varying amplifier gain can compensate for weak physiological signals and bad surface connections, and obtain the sensitivity required for specific applications (Khair et al. paragraph 0099).

24. A health care method using a mobile device, comprising the steps of:

detecting biomedical signals from a user's body (Column 9 line 52 – column 10 line 37);

classifying the detected biomedical signals by respective signals (Column 9 line 52 – column 10 line 37, table 1);

analyzing an emotional state of the user by extracting a plurality of feature values from the classified biomedical signals, calculating differences between the extracted feature values and predetermined feature values, and classifying the user's emotional state by respective emotions based on support vector machine (SVM) classification in accordance with the calculated differences of the feature values (Column 19 lines 45 – 55, figure 8 various levels of stress and relaxation, table 2); and

analyzing a physical condition of the user based on the classified signals and user's physical information (Column 18 line 57 – column 19 line 30); and

Teller et al. discloses collecting physiological data from a user from skin electrodes, but fails to disclose correcting user-to-user variation based on the measured physiological signals. However, Khair et al. a reference in an analogous art discloses adjusting amplifier gain automatically to compensate for varying skin resistance and to keep measured signals within predetermined ranges (Khair et al. paragraphs 0098 – 0099). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Teller et al. with the adjustable amplifier gain system of Khair et al., since Khair et al. states that varying amplifier gain can compensate for weak physiological signals and bad surface connections, and obtain the sensitivity required for specific applications (Khair et al. paragraph 0099).

36. The method as claimed in claim 24, wherein the step of correcting the user-to-user variation of the biomedical signals comprises the steps of:

determining whether the user's body is in contact with the biomedical signal measurement module (Teller et al. column 25 lines 30 – 43);

if it is determined that the user's body is in contact with the biomedical signal measurement module, determining whether the correction of the user-to-user variances of the detected biomedical signals is required (Khair et al. paragraphs 0098 – 0099);

if it is determined that the correction of the user-to-user variances of the detected biomedical signals is required, checking whether values of the detected biomedical signals are above a maximum limit level and decreasing a gain of an amplifier if the values of the detected biomedical signals are above the maximum limit level (Khair et al. paragraphs 0098 – 0099); and

if the values of the detected biomedical signals are equal to or less than the maximum limit level, checking whether the values of the detected biomedical signals are equal to or less than a minimum limit level and increasing the gain of the amplifier if the values of the detected biomedical signals are equal to or less than the minimum limit level (Khair et al. paragraphs 0098 – 0099).

Claims 1 – 8, 10, 11, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ark et al. U.S. Patent No. 6,190,314 in view of Khair et al. U.S. PGPub No. 2002/0109621.

Note to Applicant: See previous action for rejection to unaddressed dependent claims, as they are rejected on substantially the same basis.

1. A mobile device with an input unit, a display unit, a memory unit and a central control unit, the mobile device comprising:

a biomedical signal measurement module for detecting biomedical signals from a user's body, classifying the detected biomedical signals by respective signals and outputting the classified signals, (Column 2 lines 12 – 50); and a health care module for analyzing an emotional state and physical condition of the user based on the classified signals input from the biomedical signal measurement module and physical information of the user, the health care module comprising (Column 2 lines 12 – 50):

an emotional state analysis unit, including a feature analysis unit for extracting feature values of the classified biomedical signals input from the biomedical signal measurement module (Column 2 lines 12 – 50),

a subtracter unit for obtaining differences between the extracted feature values from the feature analysis unit and predetermined feature values (Column 2 lines 12 – 50), and

a support vector machine (SVM) unit for classifying the user's emotional state by respective emotions in accordance with the differences of the feature values obtained by the subtracter unit (Column 2 lines 12 – 50), and

a physical condition analysis unit for analyzing the user's physical condition based on the classified biomedical signals input from the biomedical signal measurement module and the user's physical information (Column 2 lines 12 – 50).

Ark et al. discloses collecting physiological data from a user from skin electrodes, but fails to disclose correcting user-to-user variation based on the measured physiological signals. However, Khair et al. a reference in an analogous art discloses adjusting amplifier gain automatically to compensate for varying skin resistance and to keep measured signals within predetermined ranges (Khair et al. paragraphs 0098 – 0099). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Ark et al. with the adjustable amplifier gain system of Khair et al., since Khair et al. states that varying amplifier gain can compensate for weak physiological signals and bad surface connections, and obtain the sensitivity required for specific applications (Khair et al. paragraph 0099).

Response to Arguments

Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kai Rajan whose telephone number is (571)272-3077. The examiner can normally be reached on Monday - Friday 9:00AM to 4:00PM.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kai Rajan/
Examiner, Art Unit 3736

/Michael C. Astorino/
Primary Examiner, Art Unit 3736

August 11, 2008